

REBUTTAL TESTIMONY
OF
DAVID F. SCHMIDT
On Behalf of
MISSISSIPPI POWER COMPANY
BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION
DOCKET NO. 2019-UA-116

INTRODUCTION

9 Q. Would you please state your name, position and business address?

10 A. My name is David F. Schmidt. I am the Generation Services Manager for Mississippi
11 Power Company (MPC or the Company). My business address is 2992 West Beach
12 Boulevard, Gulfport, Mississippi, 39501.

13 O. Please describe your education and professional experience?

14 A. I am a graduate of Mississippi State University with a Bachelor of Science and Master of
15 Science in Mechanical Engineering. In 1998, I began working in System Planning at
16 Southern Company Services, Inc. (SCS). After holding several positions with SCS, I
17 joined System Planning at MPC in 2000. In 2002, I transferred to Plant Daniel as a
18 Project Engineer. At Plant Daniel, I progressed through a variety of roles and was
19 appointed Asset Manager responsible for environmental retrofits in 2005. While
20 working at Plant Daniel, I also obtained a Master of Business Administration degree
21 from William Carey College in 2005. In 2007, I was named System Planning Manager
22 for MPC. In this capacity, I was responsible for the development of the Company's

1 Integrated Resource Plan and related matters. In 2010, I was named the Asset Manager for
2 the Plant Daniel Scrubber Project. At the end of 2013, I returned to the planning area as
3 the Generation Planning and Performance Manager.

4 **Q. What is the purpose of your rebuttal testimony?**

5 **A.** The purpose of my rebuttal testimony is to provide the Commission with information that
6 corrects the record with regard to misleading or incorrect statements in comments filed by
7 the Sierra Club, along with the Synapse Energy Economics, Inc. (Synapse), on September
8 30, 2019, and in the late-filed testimony of Ms. Rachel Wilson of Synapse submitted on
9 October 16, 2019. Unless the context clearly indicates otherwise or a specific reference is
10 made, my testimony will generally refer these submissions as attributable to Sierra Club.

11 **Q. Do you sponsor any exhibits with your testimony?**

12 **A.** Yes. I am sponsoring Exhibit____(DFS-1), which is a copy of MPC's Response to Data
13 Request No. MPUS-1-13 SUPP.

14 **I. Correcting Sierra Club's Compliance Misstatements**

15 **Q. The Sierra Club alleges that the Company did not adequately consider compliance
16 alternatives. Is this true?**

17 **A.** No. It is not true. The Company has responded appropriately to changing conditions. With
18 respect to compliance equipment and controls, MPC evaluated three (3) alternatives for
19 low volume wastewater treatment¹ and four (4) alternatives for dry bottom ash conversion
20 in order to determine the most cost-effective control solution.²

¹ MPL testimony, p. 8 of 14, lines 6-12.

² MPL testimony, p. 10 of 14, lines 3-9.

1 In addition, MPC conducted multiple asset valuations of the Plant Daniel coal units
2 in which continued operation was evaluated against early retirement as part of the broader
3 discussion regarding MPC generation reserves as part of the RMP docket.³ An alternative
4 to continued operation is, and has been, part of the consideration by the Commission, the
5 Staff, and Bates White in the RMP docket. As noted in the April and September updates
6 to the RMP analysis previously provided by MPC in response to data requests from Bates
7 White,⁴ an alternative available based upon updated economic analyses is to retain Watson
8 Unit 5 and to retire the Plant Daniel coal units in order to bring MPC generating reserves
9 closer to the target reserve margin after the identified transmission constraints are resolved.
10 By providing this comparison, MPC has made the Commission, the Staff, Bates White, and
11 all of parties to that proceeding aware of the changing landscape of the economic analyses.
12 The close economic results from these analyses are why the concepts such as fuel diversity,
13 tax revenue, and jobs (direct and indirect employment) are important considerations when
14 ultimately making such weighty decisions as plant closure. Sierra Club tries to minimize
15 or gloss over these concerns with solutions that are not real long-term solutions⁵ or may
16 run counter to the sound utility planning and economics⁶ that Sierra Club accuses MPC of

³ Reserve Margin Plan MPSC Docket No. 2018-AD-145; Original filing, MPUS (BW) 2-1, MPUS (BW) 2-1 SUPP, and also in this docket in Data Request No. MPUS 1-13 SUPP and MPC's response to Data Request No. SC-MPC 1-19, Attachments A, B, C, D, and E.

⁴ MPC Response to Data Request No. MPUS (BW) 2-1 (April 4, 2019) and MPUS (BW) 2-1 SUPP. (September 17, 2019).

⁵ Docket No. 2019-UA-116, Testimony of Rachel Wilson, page 18, "The addition of replacement capacity would also result in new construction jobs in the region". It is not clear if the replacement capacity would result in significantly different amount of construction jobs than those associated with the proposed CCR Projects. In any case, these construction jobs are temporary and not a substitute for the current direct and indirect permanent employment.

⁶ Docket No. 2019-UA-116, Testimony of Rachel Wilson, page 18, "While Plant Daniel does provide both job and tax revenue benefits, if replacement capacity were to be built at the same site, some portion of these benefits

1 ignoring and likewise result in the higher costs to customers without delivering additional
2 value that Sierra Club alleges in its testimony.⁷

3 **Q. Did MPC delay its CCR compliance filing?**

4 **A.** No, Sierra Club ignores the dynamic nature of the processes involved prior to and during
5 this certification process that Mr. Loughman has addressed in his testimony. For example,
6 Mr. Loughman outlines how the CCR rule compliance timelines for both CCR and non-
7 CCR waste water streams have compressed the compliance schedule that set the timetable
8 for Company action.⁸ Sierra Club takes issue with MPC filing for a certificate several years
9 after the original CCR Rule was finalized and a year after the rule was clarified. MPC did
10 not trigger closure until October 2018. Under the original 2015 rule, the Company had not
11 planned to begin engineering design until the end of 2018 or early 2019, because the rule
12 required a series of steps and analyses to be performed at the ash pond in order to determine
13 *whether* closure was even required.⁹ After closure was ultimately triggered and after
14 clarification as to the treatment of non-CCR waste streams was issued in 2018¹⁰, MPC had
15 to alter course to perform the basic engineering required to outline the expected cost for
16 compliance with the clarified rule.

would remain in Jackson County” This statement seems to indicate that to mitigate the concerns, replacement capacity would be built on the site, regardless of whether or not that was the most economic location. It is also in contrast with the suggestion to alleviate fuel cost volatility by adding zero-variable cost technologies as these technologies need minimal employees and in the case of solar facilities would be difficult if not impossible to locate on or near the site given the vast amounts of land required.

⁷ Docket No. 2019-UA-116, Testimony of Rachel Wilson, page 19, lines 3-4.

⁸ Direct testimony of Mark P. Loughman, pp. 12-13.

⁹ 80 FR 21490-91, April 17, 2015; 83 FR 36454, July 30, 2018; 40 CFR § 257.60-64 and 90-98.

¹⁰ EPA’s Phase One, Part One Amendments to CCR Rule finalized on July 30, 2018.

1 **Q. Sierra Club also takes issue with the fact that no economic analysis was filed with the**
2 **original certificate petition. Can you explain why the Company did not include any**
3 **such analysis?**

4 **A.** As Mr. Loughman described in his testimony in the original certificate petition, the CCR
5 projects were required to be completed as scheduled in order to maintain the reliability of
6 the electric system beyond 2020, regardless of the long-term economics of the units.¹¹
7 Following the filing of the Company's petition, new information became available which
8 then opened for reconsideration the possibility of early retirement. MPC informed the
9 Commission of the change¹² and began the analysis required to evaluate this new
10 possibility. As soon as updated transmission analyses were completed, the results were
11 filed with the MPSC in supplemental data responses.¹³ Likewise, the RMP economic
12 analysis was again updated based on changing conditions and timely filed with the
13 Commission within the time constraints required to perform the analysis as the Company
14 responded to this dynamic situation.¹⁴ While the analysis was performed, the ultimate
15 outcome did not change the Company's compliance strategy, because the transmission
16 risks associated with the transmission plan could not be mitigated to ensure reliable
17 transmission service.

¹¹ Direct testimony of Mark P. Loughman, page 11, lines 19-22.

¹² MPC's response to Data Request No. MPUS 1-10, p. 2 of 2, filed on August 16, 2019.

¹³ MPC's response to Data Request No. MPUS (BW) 3-9 filed September 16, 2019 in Docket No. 2018-AD-145.

¹⁴ MPC's supplemental response to Data Request No. MPUS (BW) 2-1 filed September 17, 2019 in Docket No. 2018-AD-145.

1 **Q. Please elaborate on why MPC cannot mitigate the transmission constraints in time**
2 **to retire Plant Daniel Units 1 and 2 by July 2022, to accommodate completion of the**
3 **ash pond closure by October 2023?**

4 **A.** In MPC's data request responses MPUS 1-8 SUPP and MPUS 1-13 SUPP, the Company
5 stated that while completion of the suite of transmission projects might be "technically
6 possible under optimal circumstances" this option creates reliability risks which cannot
7 be eliminated. MPC cannot commit to or guarantee the completion of the transmission
8 projects identified (eight line reconductors and one new 230kV line), totaling over 100
9 miles, in time to retire Plant Daniel Units 1 & 2 by July 2022. Although I am not in
10 transmission planning or operations, I am aware of the risks facing the completion of
11 these projects in such a compressed manner and will more fully elaborate on the risks that
12 were already noted in the response to MPUS 1-9 SUPP.

13 The project risks that cannot be mitigated with the required completion schedule
14 are those outside of the reasonable control of MPC or associated with unknowns given
15 the current level of project development and real-time system constraints that may exist
16 in the region. These risks include:

- 17 • Construction delays due to weather or other factors beyond MPC's reasonable
18 control.
- 19 • MPC would need the MPSC Certificate of Public Convenience and Necessity
20 (CPCN) already filed with the commission approved by January 1, 2020 for the
21 Heidelberg-Pachuta 115kV line reconductor for this project that was already
22 budgeted and planned due to other system issues.

1 • MPC would need to develop and file a CPCN request, proceed through the
2 regulatory process, and receive a CPCN by March 30, 2020 for the new 230kV
3 line and any other transmission projects required for certification.

4 • Right-of-way acquisition for new 40-mile 230kV transmission line must be
5 completed by within a timeframe that supports the tentative project schedule.
6 Transmission Planning has informed me that there are approximately 130 land
7 parcels that would have to be acquired within 44 weeks as part of the project
8 schedule assumption. Any condemnations could result in lengthy delays to
9 project and would require a certificate to have been issued prior to initiating any
10 condemnation proceeding.

11 • Ability to schedule the multiple line outages to perform the reconductors while
12 balancing the needs of other system projects.

13 • Ability to secure a congruent outage duration for each line upgrade to maintain
14 resource efficiency.

15 • Project plan for the new 40-mile 230kV transmission line doesn't include having
16 to mitigate any environmental issues with the proposed line route which could
17 result in lengthy delays to the project.

18 It is for these reasons that the MPC transmission organization cannot commit to
19 completion of this alternative course of action.

20 **Q. What are the risks associated with not completing the transmission projects
21 associated with retiring Plant Daniel Units 1 and 2 by July 2022?**

1 **A.** According to the studies conducted by SCS Transmission Planning and my conversations
2 with them, the risks associated with not completing the transmission projects associated
3 with retiring Plant Daniel Units 1 and 2 by July 1, 2022 consist of significant generation
4 redispatch out of economics or potential load shed for multiple potential contingencies
5 that are studied in the transmission analysis. There are several different units and lines
6 located within and outside MPC's service territory and the Southern Balancing Area
7 Authority (SoBAA) that when out of service (either planned or unplanned) can cause
8 portions of MPC's transmission system to become overloaded once Daniel Units 1 and 2
9 are no longer available. Based on transmission planning analysis, the option of using
10 generation redispatch to mitigate the identified line constraints is limited to two of MPC's
11 generating facilities and is of a magnitude of up to 500MW. In certain cases, if one of
12 these generating facilities is offline or there is a system capacity limitation, then the
13 option to redispatch is not available and load shed would have to be implemented.
14 Action may need to be taken prior to the contingency occurring if the operational risk is
15 determined to be too great to manage. Again, some of the unit and line outages that
16 trigger these overloads are outside of MPC's service territory and the SoBAA, and
17 therefore, outside of our restoration control.

18 **II. Correcting Sierra Club's Economic Misstatements**

19 **Q. Sierra Club claims \$45 million of net savings to MPC customers if the Daniel coal
20 units were retired instead of continuing to operate. Is this correct?**

21 **A.** No. Sierra Club only references the potential CCR Project *capital* cost savings provided
22 in MPC's data request responses, while ignoring the other aspects of that response and the

1 resulting impact on overall costs.¹⁵ In MPC's supplemental response, Data Request No.
2 MPUS 1-13 SUPP, Attachment A, which is attached hereto as Exhibit ____ (DFS-1), it was
3 also noted that retirement of the coal units would also advance several asset retirement
4 obligations for other facilities located at the site, so the net projected savings was estimated
5 to be \$25 million. Additionally, Sierra Club cites additional savings to MPC customers
6 associated with the longer period over which MPC would have to close the ash pond.¹⁶
7 This savings is already included in the calculation of \$25 million as noted in my exhibit.
8 Of the \$25 million in net savings, MPC customers would receive their ownership portion
9 (50%) of approximately \$12.5 million in savings.

10 **Q. Sierra Club says that their analysis shows that Plant Daniel will cost ratepayers more
11 than \$1 billion by 2040.¹⁷ Do you agree?**

12 No. Based on the notes regarding the analysis, I have three main concerns with the
13 analysis, but MPC has not had the benefit of discovery to fully review Sierra Club's
14 analysis. First, it appears that there may be an issue with their determination of energy
15 value. While not entirely sure as to their methodology, I would expect to see that energy
16 values would be equal to or greater than their variable cost (fuel, emissions, fuel handling,
17 and variable O&M) or else would not economically dispatch (i.e. not incur the variable
18 costs). Based on the values shown in Figure 2 in Sierra Club's testimony, this does not
19 appear to be the case, at least in some years, for the analysis performed. Second, non-unit

¹⁵ Direct Testimony of Rachel Wilson, p. 9, lines 3-6 filed October 16, 2019, and MPC's supplemental response to Data Request No. MPUS 1-13 Attachment A, pp. 3-4 filed September 20, 2019.

¹⁶ Direct Testimony of Rachel Wilson, p. 17, lines 4-7 filed October 16, 2019.

¹⁷ Direct Testimony of Rachel Wilson, p. 11, lines 17-19 filed October 16, 2019.

1 specific maintenance capital costs were used even though unit specific assumptions were
2 provided. Lastly, no consideration of the capacity value was given to the units, whereas
3 the MPC modeling assumes some amount of capacity value, albeit at a value significantly
4 less than that of a replacement CT.

5 **Q. Do you agree with Sierra Club's assertions that the Plant Daniel units lost \$245
6 million over the last three years?**

7 **A.** No. I disagree with both the analysis methodology and characterization of their “finding”.
8 With regard to the analysis methodology, I assert that the inclusion of fixed cost (fixed
9 O&M and capital) in what is essentially a variable cost comparison is flawed. Additionally,
10 the use of hourly generation obtained from the EPA’s Air Market Program may have
11 introduced additional error.

12 Their “finding” is characterized as the Plant Daniel coal units did not provide
13 economic value and instead was a large loss. This assertion is an overly narrow view that
14 ignores the primary goal of utility operations – reliability. The overall purpose of economic
15 dispatch is to provide the lowest cost of generation possible, but only within the confines
16 of maintaining reliable operations. The electric grid is not static – there are changes
17 including generator dispatch order, available generators, and electrical flows (both within
18 and outside the balancing authority’s control area) that necessitate that a unit or units
19 operate at certain loads in order to maintain a reliable electrical system. These changes,
20 which may be localized or more regional in nature, require transmission improvements to
21 alleviate. While I concede that the units have operated more than their economic dispatch
22 cost (i.e. variable costs) would indicate, I assert that this operation serves an essential
23 function in maintaining a reliable grid. Furthermore, this particular need to operate for

1 transmission reliability is not isolated to Plant Daniel coal units. Plant Watson Units 4&5
2 are being committed for long periods of time for the same reason. Not only MPC units,
3 but other regional units are being committed for the same reason. This mode of operation
4 would not be economically optimal if there were no transmission constraints, but not all
5 changes in the electrical system can be anticipated and the solutions cannot be implemented
6 overnight. The transmission projects discussed in the original RMP that led to the earliest
7 possible date to cease operations of Plant Watson 4-5 in 2022 are some of the same projects
8 that must be completed to alleviate the need to commit these regional generators for
9 reliability.

10 **Q. Sierra Club asserts that the MPC's analysis is "flawed"¹⁸ and input assumptions "are
11 incorrect and unsupported".¹⁹ Do you agree?**

12 **A.** No. The multiple economic screening analyses of the Daniel coal units are robust and based
13 on well-supported assumptions across nine (9) scenarios of varying fuel prices and carbon
14 costs, utilizing our most current fuel forecast available to the Company. They are
15 appropriately designed to estimate the impact to MPC's customers of continuing to operate
16 or retiring the units. As new information becomes available that could significantly impact
17 the results, MPC has and will continue to update its analyses in the RMP docket. The
18 methodology has not been challenged over the course of the RMP filing that began in
19 August 2018.

¹⁸ Sierra Club's Comments, Exhibit 1 – Synapse Review, Section 3, p. 5.

¹⁹ Sierra Club's Comments, Exhibit 1 – Synapse Review, Section 5, p. 10.

1 There are many errors in the assertions that Sierra Club makes. Sierra Club seems
2 to blame MPC for their cursory review since “MPC did not produce the input files and
3 results workbooks for these analyses until September 27, 2019”. What Sierra Club fails
4 to disclose is that the Company provided over 2000 pages of information, including the
5 information referenced above on September 27, 2019, in response to the Sierra Club data
6 requests filed only fourteen (14) days earlier on September 13, 2019. Nevertheless, I will
7 refute some of the more glaring errors.

8 Sierra Club claims that MPC’s “decision to award Plant Daniel a non-zero capacity
9 value is completely unsupported.”²⁰ This is simply wrong. The methodology used by
10 MPC in the RMP and successive analyses employed a consistent, appropriate approach
11 that was described in the documentation provided to the Sierra Club. Initially, MPC
12 compared each asset to the same replacement (a combustion turbine (CT)) to establish a
13 rank order. After that step, MPC applied a capacity worth that ranges from zero for the
14 least valuable asset to full CT replacement proxy for assets needed to avoid an immediate
15 generation need as the previous assets were assumed retired. MPC has used this
16 methodology consistently with Plant Daniel receiving mostly full CT replacement value in
17 the initial RMP to receiving a value of approximately half that of a CT replacement in the
18 most recent update due to Plant Daniel’s change in rank order.

19 Sierra Club asserts that MPC’s selection of combined cycle technology as the
20 replacement capacity in its analysis “is not reasonable”. The selection referenced by Sierra
21 Club was from a 2016 study where the forecasted operation for Plant Daniel was expected

²⁰ Sierra Club’s Comments, Exhibit 1 – Synapse Review, Section 3, p. 5.

1 to be more in line with combined cycle operations. This assumption is dated. The RMP
2 and later analyses used the methodology described above.

3 Sierra Club asserts that MPC's inclusion of transmission project costs as costs
4 associated with retirement was inappropriate, because "the Company claims that the
5 transmission projects are necessary regardless of any retirement decision". The Company
6 said the following in the attachment referenced by Sierra Club as it relates to the relative
7 value of Plant Daniel coal units in the April update to the RMP as compared to the original
8 study:

9 The decrease is primarily due to lower transmission benefits resulting from
10 recent transmission planning analysis which indicate the need to complete
11 certain transmission projects as part of the normal planning process
12 regardless of the status of Units 1 and 2 at Plant Daniel.²¹

13
14 In this April update, MPC properly included only the incremental transmission costs
15 associated with the retirement Plant Daniel coal units that would not have been performed
16 otherwise. However, in the September update, the Plant Daniel coal units received no
17 avoided transmission costs as no incremental transmission was incurred for the second unit
18 retirement based on the most recent transmission modeling.

19 Lastly, Sierra Club claims that MPC's capacity factor assumption "unwarranted",
20 inappropriately "inflate the future energy revenues" and make the plant "look more
21 profitable than it would under more realistic assumptions"²² MPC's assumptions for
22 projected capacity factors are the result of simulating hourly fleet commitment and dispatch
23 decisions throughout the study period over a range of scenarios using a proven production

²¹ Reserve Margin Plan MPSC Docket No. 2018-AD-145, Data Request No. MPUS (BW) 2-1.

²² Sierra Club's Comments, Exhibit 1 – Synapse Review, Section 3, p. 6.

1 cost model that is used by many utilities throughout the industry. Sierra Club cites the
2 capacity factor range assumption for just one particular scenario. In its economic
3 evaluations, MPC evaluated nine (9) different scenarios, each with a unique capacity factor
4 assumption. The low gas scenarios reflect the futures where the Plant Daniel coal units
5 would operate at very low capacity factors (below or well below 10% capacity factors for
6 a majority of the time period) and provide value mostly as capacity to meet peak needs.

7 **Q. Does this conclude your testimony?**

8 **A.** Yes, it does.

BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

MISSISSIPPI POWER COMPANY
EC-120-00097-00

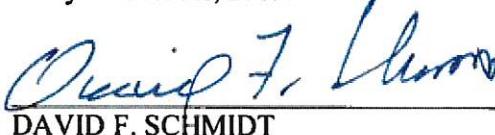
DOCKET NO. 2019-UA-116

IN RE: PETITION OF MISSISSIPPI POWER COMPANY FOR A
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
FOR ENVIRONMENTAL COMPLIANCE ACTIVITIES
AUTHORIZING THE CLOSURE OF THE ASH POND,
CONSTRUCTION OF LOW VOLUME WASTEWATER
TREATMENT FACILITIES, AND CONVERSION OF BOTTOM
ASH COLLECTION FACILITIES FOR THE PLANT VICTOR J.
DANIEL ELECTRIC GENERATING FACILITY IN JACKSON
COUNTY, MISSISSIPPI

AFFIDAVIT OF DAVID F. SCHMIDT

PERSONALLY appeared before the undersigned officer authorized to administer oaths, David F. Schmidt, who being duly sworn, deposes and says; that the foregoing rebuttal testimony was prepared by him or under his supervision; that said testimony was prepared for use as direct testimony on behalf of Mississippi Power Company in the captioned proceeding; that the facts stated therein are true to the best of his knowledge, information and belief; and that if asked the questions appearing therein, his answers, under oath, would be the same.

Dated at Gulfport, Mississippi, the 23rd day of October, 2019.



DAVID F. SCHMIDT

Sworn to and subscribed before me this the 23 day of October, 2019.

My Commission Expires:





Donna J. Beal